

REMARKS:

Entry of the foregoing, reexamination and reconsideration of the subject application, as amended, pursuant to and consistent with 37 C.F.R. §1.116, are respectfully requested in light of the remarks which follow.

Applicants would like to thank the Examiner for the interview with Applicants' representative on March 13, 2007, regarding the present invention and proposed claim amendments that may place the application in condition for allowance. The Examiner's helpful comments and suggestions are greatly appreciated.

Further to the interview, and in response to the Office Action dated November 21, 2006, Applicants submit the foregoing amendments to the claims.

I. Amendments to the Claims

In the foregoing amendment, claims 1-30 have been canceled, claims 31-33 and 35 have been amended, and new claims 36-53 have been added.

Specifically, claim 31 has been amended to positively recite the function of the peptides (e.g. that the decapeptides inhibit the dimerization of HIV reverse transcriptase). This amendment is supported throughout the specification, for example at page 2, lines 10-17).

Claim 31 has also been further amended to recite that the antiviral peptide "consists of" the recited decapeptide. The transitional phrase "consisting of," when it appears in a clause in the body of a claim, excludes any element not specified in that clause. Accordingly, this amendment distinguishes the claimed invention from any inhibitors of HIV replication wherein the antiviral peptide is greater than ten amino acids long. However, Applicants would like to emphasize that the term "consisting of" does not exclude other elements from the claim as a whole. Thus, the inhibitor of HIV replication recited in claim 31 encompasses additional elements, such as an MPG peptidyl carrier. (See, e.g., MPEP § 2111.03.)

Claim 31 has also been further amended by deleting the term "analog" from the claim.

Other amendments have been made to claim 31 in order to clarify the claim language. Clarifying amendments have also been made to claims 32 and 33. These

amendments are merely editorial in nature and are not intended to change the scope of the claims.

Claim 35 has been amended to recite that the inventive composition "further comprises one or more pharmaceutically acceptable excipients," as supported generally in the present specification at page 8, line 22 to page 9, line 5.

New claims 36-53 have been added.

Claims 36-44 depend ultimately from claim 35 and recite particular embodiments of the invention recited in claim 35. Support for claims 36-44 can be found throughout the specification and original claims as filed.

In particular, claims 41 and 42 recite inhibitors wherein the MPG peptidyl carrier and the antiviral peptide are in the form of a complex, and wherein the complex comprises the MPG peptidyl carrier and the antiviral peptide at a ratio of about 20 molecules of the MPG peptidyl carrier for 1 molecule of the antiviral peptide. Claims 41-42 are supported at least at page 24945 of Morris et al., JBC 274:24941-24946, incorporated herein by reference at page 13, line 7 of the specification.

Claims 45-53 are directed to inhibitors of HIV replication that comprise a chimeric peptide. In particular, claim 45 recites a chimeric peptide "comprising" a decapeptide and an MPG carrier peptide. Claims 45-53 are supported throughout the specification and original claims as filed (see, e.g., page 6, lines 31-33 and Example 6 at pages 18 and 19). Applicants note that full-length HIV reverse transcriptase does not include an MPG carrier peptide. Accordingly, the chimeric peptides disclosed in the specification and recited in the present claims are not taught or suggested by any reference that may disclose full-length HIV reverse transcriptase.

The amendments to the claims, including cancellation of claims, have been made without prejudice or disclaimer to any subject matter recited or canceled herein. Applicants reserve the right to file one or more continuation and/or divisional applications directed to any canceled subject matter. No new matter has been added, and entry of the foregoing amendments of the above-identified application are respectfully requested.

II. Response to Claim Rejections Under 35 U.S.C. § 112, First Paragraph

At pages 1-5 of the Office Action, claims 1-10, 18, and 31-35 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to meet the written description requirement. This rejection is respectfully traversed, for at least the following reasons.

Initially, Applicants note that to expedite prosecution in the present application, and not to acquiesce to the Examiner's rejection, the claims have been amended as described above.

Further, Applicants submit that the pending claims are sufficiently described. First, as discussed in the interview, Examples 2 and 3 of the present specification show that p7 inhibits replication in several HIV isolates, and not just in HIV-1 BH10. Second, the ability of p7 to inhibit replication in a variety of HIV-1 and HIV-2 isolates implies that all of the peptides shown in Table I are likely to possess the desired antiviral activity. Third, the HIV-RT crystal structure has been determined and analyzed, as disclosed in the specification and in references cited therein (see, e.g., page 1, line 30 to page 2, line 2). Thus, a representative number of peptides are disclosed in the specification.

In the interview, the Examiner agreed that the specification appears to disclose sufficient information regarding the structure of the peptides recited in claims 31-35, and provides a correlation between the recited consensus sequence and antiviral function. The Examiner then indicated that the outstanding written description rejection would likely be withdrawn as to all pending claims.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

III. Additional Remarks in Response to Examiner Interview

Applicants note that during the interview, the Examiner indicated that claims 31-35 (directed to a decapeptide containing "a basic amino acid in position 1, an acidic amino acid in positions 2 and 5, and a tryptophan in positions 4, 7, and 8 wherein the amino acid at position 3 is threonine, isoleucine or valine; the amino acid at position 6 is threonine, alanine, and glutamine; the amino acid at position 9 is threonine, alanine, valine, isoleucine, methionine, or aspartate; and the amino acid at

position 10 is glutamate, aspartate or asparagine (claim 31)) appear to be sufficiently enabled. In this regard, the Examiner noted that in light of the information regarding conserved residues at the RT dimerization interface, and the replication inhibition results set forth in the specification, the peptides recited in claims 31-35 could reasonably be expected to possess the desired antiviral activity.

However, the Examiner also pointed out that claim 35 recited "pharmaceutical compositions" comprising the inhibitor of the present invention. According to the Examiner, due to the unpredictability in the art of HIV therapy, a person of ordinary skill in the art would not be able to use the recited "pharmaceutical composition" to treat a disease or condition without undue experimentation. To expedite prosecution in the present application, and not to acquiesce to the Examiner's rejection, as noted above claim 35 has been amended to recite that the inventive composition "further comprises one or more pharmaceutically acceptable excipients," as suggested by the Examiner.

Accordingly, Applicants respectfully submit that a person of ordinary skill in the art could make and use the presently claimed invention without undue experimentation.

CONCLUSION

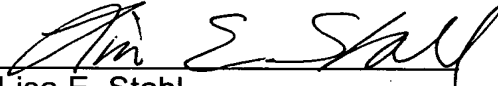
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.

In the event that there are any questions relating to this Amendment and Reply, or the application in general, it would be appreciated if the Examiner would contact the undersigned attorney by telephone at (703) 838-6609 so that prosecution of the application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: May 21, 2007

By: 
Lisa E. Stahl
Registration No. 56,704

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620